

BPA Attachment K Planning Process Study Results Meeting

November 21, 2011

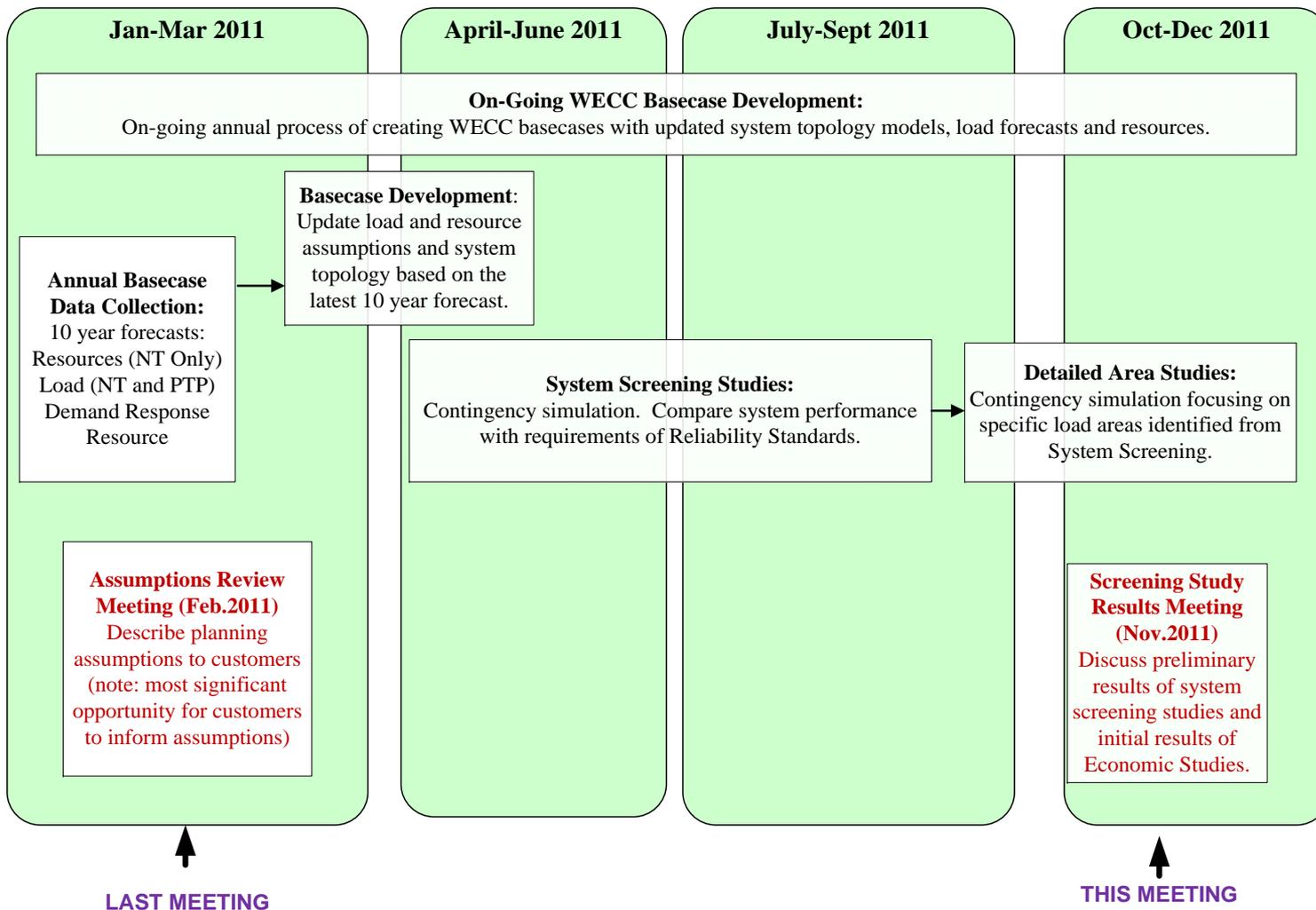


Agenda

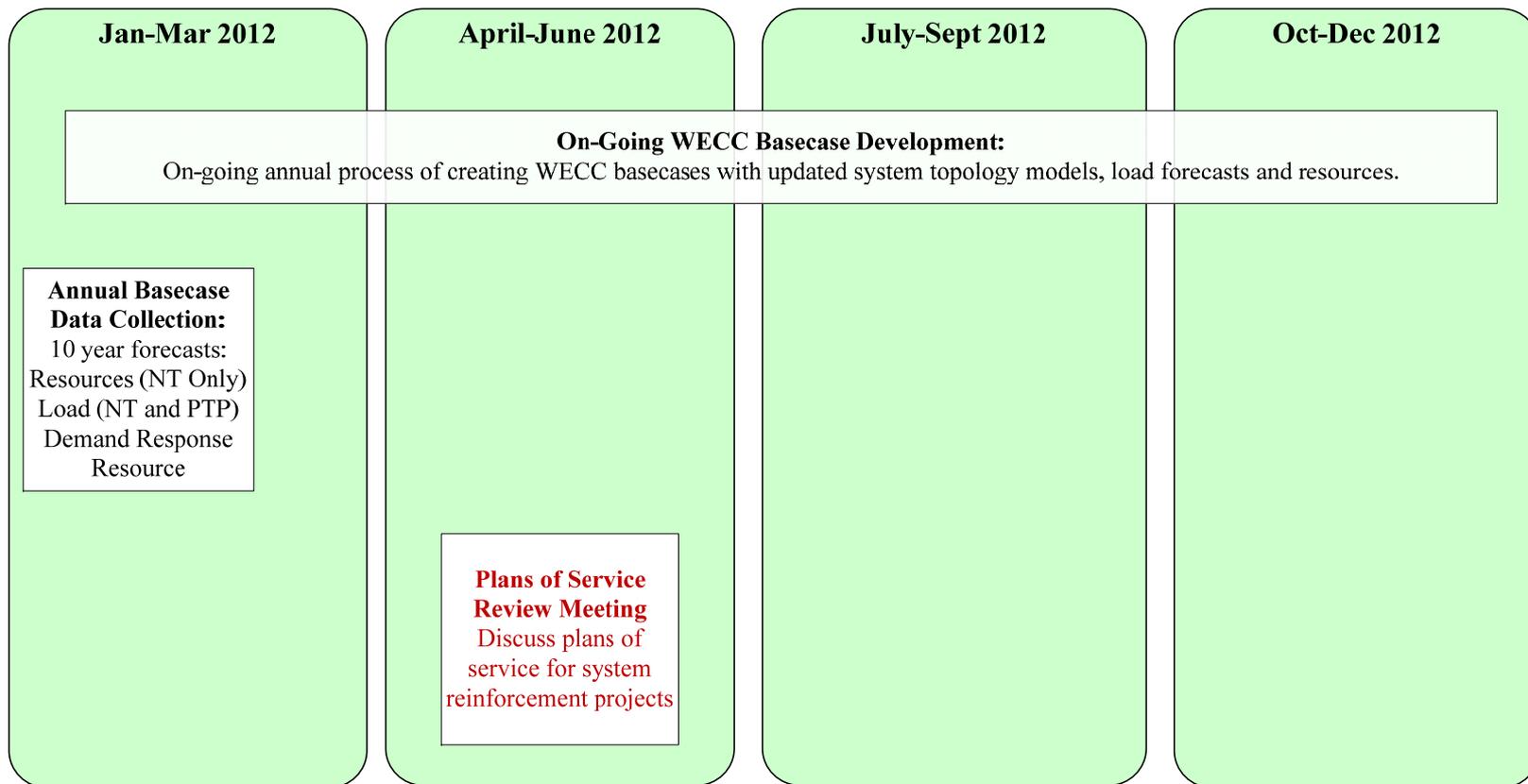
- BPA's Attachment K Planning Process Timeline
- Preliminary Screening Study Results
- Next Steps



BPA's Attachment K Planning Process Timeline 2011



BPA's Attachment K Planning Process Timeline 2012



↑
NEXT MEETING



Screening Studies – Assumptions

Modeled Loads & Topology representing the Near and Long Term Planning horizons

- Near Term (2-5 years)
 - 2016 - Winter and Summer peak loads
 - 2016 – Spring off-peak loads
- Long Term (6-10 years)
 - 2021 – Winter and Summer peak loads

Performed Power Flow Studies for Relevant (TPL Standards) Contingencies

Applied the Following Criteria:

- NERC Reliability Standards
[North American Electric Reliability Corporation]
- WECC Reliability Criteria
[Western Electricity Coordinating Council]

Evaluated System Performance



Geographic Load Areas

Seattle / Tacoma

Portland

Vancouver / Clark County

Salem / Albany

Eugene

Olympic Peninsula

(includes: No.of Shelton, Kitsap Penn.)

Tri-Cities

Longview /Cowlitz County

Mid-Columbia

Central Oregon

Aberdeen / SW Washington Coast

Spokane / Hatwai

Centralia / Chehalis

Flathead Valley / NW Montana

Lower Valley / Southern Idaho

North Idaho

Oregon Coast

Fossil / Condon

Okanogan

Hood River / The Dalles

LaGrande

Pendleton

Walla Walla

Boundary / Colville

Alturas / Northern California



Seattle / Tacoma

NEAR TERM (2-5 years)

Area is capable of serving expected loads for TPL-002 (single) contingencies

Some potential low voltages and overloads on the 115 kV and 230 kV systems for TPL-003 (multiple) contingencies.

LONG TERM (6-10 years)

There is a TPL-002 (single) contingency which causes overloads on the 115 kV and 230 kV systems in the area. A mitigation plan is under development.

There are several TPL-003 (multiple) contingencies which may cause overloads on the 115 kV, 230 kV and 500 kV facilities in the area. There is sufficient lead time to develop mitigation plans for these.



Portland

NEAR TERM (2-5 years)

Area is capable of serving expected loads for TPL-002 (single) contingencies

Some low voltages on west Portland system for TPL-003 (multiple) contingencies

LONG TERM (6-10 years)

There is a thermal overload on the 230 kV system in the Gresham/Troutdale area for TPL-003 (multiple) contingencies.



Vancouver / Clark County

NEAR TERM (2-5 years)

Area is capable of serving expected loads for TPL-002 (single) contingencies

Some overloads on the 115 kV and 230 kV systems for TPL-003 (multiple) contingencies

LONG TERM (6-10 years)

Area is capable of serving expected loads for TPL-002 (single) and TPL-003 (multiple) contingencies



Salem / Albany

NEAR TERM (2-5 years)

There is a critical TPL-003 (multiple) contingency which may result in low voltages and potential loss of local area load, but no cascading.

LONG TERM (6-10 years)

There is a TPL-002 (single) contingency which causes an overload on a 230/115 kV transformer serving this area. There is sufficient lead time to develop a mitigation plan for this.



Eugene

NEAR TERM (2-5 years)

Area is capable of serving expected loads for TPL-002 (single) and TPL-003 (multiple) contingencies.

LONG TERM (6-10 years)

Area is capable of serving expected loads for TPL-002 (single) and TPL-003 (multiple) contingencies.



Olympic Peninsula

(includes No. of Shelton, Kitsap Peninsula)

NEAR TERM (2-5 years)

There are a couple of critical TPL-002 (single) contingencies which cause a risk of voltage instability. However, there is a non-wires alternative to reduce industrial load during times of peak demand, which mitigates the risk.

There are critical TPL-003 (multiple) contingencies which may result in loss of local area load, but no cascading.

LONG TERM (6-10 years)

There is a critical TPL-002 (single) contingency which causes an overload on the 115 kV system. However, there is sufficient lead time to develop a mitigation plan for this.

There are critical TPL-003 (multiple) contingencies which may result in loss of local area load, but no cascading.



Tri-Cities

NEAR TERM (2-5 years)

Area is capable of serving expected loads for TPL-002 (single) and TPL-003 (multiple) contingencies.

LONG TERM (6-10 years)

There is a TPL-003 (multiple) contingency which may result in low voltages and 115 kV system overloads. There is sufficient lead time to develop a mitigation plan for this.



Longview / Cowlitz County

NEAR TERM (2-5 years)

The Longview area is capable of serving expected loads for TPL-002 (single) contingencies in the near term.

A critical TPL-003 (multiple) contingency in the area, causes a potential 230/115 transformer overload. There is a plan to re-terminate a line to another bus section at the critical substation, which mitigates the overload.

LONG TERM (6-10 years)

Once near term mitigation plans are in service, this area is capable of serving expected loads for TPL-002 (single) and TPL-003 (multiple) contingencies in the longer term.



Mid-Columbia

NEAR TERM (2-5 years)

Some overloads on the 115 kV system for TPL-002(single) contingencies. A mitigation plan has been developed jointly with the other Mid-Columbia utilities through Columbia Grid.

Some overloads and low voltages on the 115 kV and 230 kV systems for TPL-003 (multiple) contingencies. Mitigation plans have been developed.

LONG TERM (6-10 years)

There is a TPL-003 (multiple) contingency which may result in overloading of a 230/115 kV transformer serving the area. There is sufficient lead time to develop a mitigation plan for this.



Central Oregon

NEAR TERM (2-5 years)

Area is capable of serving expected loads for TPL-002 (single) contingencies.

There are critical TPL-003 (multiple) contingencies which may result in loss of local area load, but no cascading.

LONG TERM (6-10 years)

Some low voltages for TPL-002 (single) or TPL-003 (multiple) contingencies. There is sufficient lead time to develop a mitigation plan for this.



Aberdeen / SW Washington Coast

NEAR TERM (2-5 years)

Some low voltages for TPL-002 (single) or TPL-003 (multiple) contingencies.

LONG TERM (6-10 years)

Some 115 kV system overloads for several TPL-002 (single) contingencies. There is sufficient lead time to develop mitigation plans for these.



Spokane / Hatwai

NEAR TERM (2-5 years)

Some transformer and 115 kV system overloads for TPL-002 (single) contingencies.

There is a TPL-003 (multiple) contingency which may result in low voltages and 115 kV system overloads.

LONG TERM (6-10 years)

There are several TPL-003 (multiple) contingencies which may result in system overloads and low voltages. There is sufficient lead time to develop a mitigation plans for these.



Flathead Valley

NEAR TERM (2-5 years)

One critical TPL-002 (single) contingency requires additional reactive support to meet peak loads in the near term.

There are critical TPL-003 (multiple) contingencies which may result in loss of local area load, but no cascading.

There is existing RAS (Remedial Action Scheme) in this area which trips generation to mitigate overloads for the critical outages in this area.

LONG TERM (6-10 years)

Area is capable of serving expected loads for TPL-002 (single) contingencies in the longer term once near term mitigation plans have been placed in service.



Lower Valley / Southern Idaho

NEAR TERM (2-5 years)

There are several critical TPL-002 (single) contingencies which could cause a risk of voltage instability. Both transmission expansion and non wires mitigation alternatives are being considered.

LONG TERM (6-10 years)

Area is capable of serving expected loads for TPL-002 (single) contingencies in the longer term once near term mitigation plans have been placed in service.

There are critical TPL-003 (multiple) contingencies which may result in loss of local area load, but no cascading.



North Idaho

NEAR TERM (2-5 years)

A couple of critical TPL-002 (single) contingencies require additional reactive support to meet peak loads in the near term.

There are critical TPL-003 (multiple) contingencies which may result in loss of local area load, but no cascading.

There is existing RAS (Remedial Action Scheme) in this area which trips generation to mitigate overloads for the critical outages in this area.

LONG TERM (6-10 years)

Additional reactive support is needed to maintain voltages for critical TPL-003 (multiple) contingencies.



Fossil / Condon

NEAR TERM (2-5 years)

There is existing RAS (Remedial Action Scheme) which limits generation to mitigate overloads for the critical TPL-002 (single) contingencies in this area.

LONG TERM (6-10 years)

Area is capable of serving expected loads for TPL-002 (single) contingencies in the longer term.

There are critical TPL-003 (multiple) contingencies which may result in loss of local area load, but no cascading.



Okanogan

NEAR TERM (2-5 years)

Additional reactive support is needed to meet peak loads for critical TPL-002 (single) contingencies in the near term.

There are critical TPL-003 (multiple) contingencies which may result in loss of local area load, but no cascading.

LONG TERM (6-10 years)

Area is capable of serving expected loads for TPL-002 (single) contingencies in the longer term once near term mitigation plans have been placed in service.



Hood River / The Dalles

NEAR TERM (2-5 years)

Area is capable of serving expected loads for TPL-002 (single) contingencies.

LONG TERM (6-10 years)

Area is capable of serving expected loads for TPL-002 (single) contingencies in the longer term.

There are critical TPL-003 (multiple) contingencies which may result in loss of local area load, but no cascading.



LaGrande

NEAR TERM (2-5 years)

Additional reactive support may be needed in the LaGrande / Roundup / Pendleton area to meet peak winter loads in the near term for critical TPL-002 (single) contingencies.

There is existing IPC RAS which would run back generation at Hells Canyon in order to mitigate overloads in this area.

LONG TERM (6-10 years)

Area is capable of serving expected loads for TPL-002 (single) contingencies in the longer term once near term mitigation plans have been placed in service.

There are critical TPL-003 (multiple) contingencies which may result in loss of local area load, but no cascading.



Screening Studies Follow-Up

- Perform detailed area studies for the following areas:
 - Portland/Vancouver, Salem/Albany, Eugene, Tri-Cities, Aberdeen, Spokane/Hatwai & Boundary/Colville, Flathead Valley, North Idaho, North Oregon Coast, La Grande
- Verify the extent of potential violations
- Develop alternative conceptual solutions
- Estimate the cost of each alternative
- Select the preferred plan of service based on both performance and cost.



Economic Study

No Economic Study Requests were received during the last cycle:
10/31/2010 – 10/31/2011



BPA's Attachment K Planning Process Website

- Meetings
 - Meeting announcements, agendas, etc.
- Reference Materials
 - Materials associated with the Planning Process, participation forms, etc.
- E-mail Information
 - PlanningParticipationRequest@bpa.gov
 - PlanningEconomicStudyRequest@bpa.gov
- Economic Studies
 - Requesting and Tracking Economic Studies
- Related Information
 - Links to information related to the Planning Process



Next Steps

- Perform Detailed Area Studies – under way
- Develop Alternative Conceptual Solutions and Costs
- Next Planning Meeting – Conceptual Solutions (Spring 2012)

Sign up to participate in future meetings or receive additional information by:

Filling out the Participation Request form on BPA's Planning Process website and sending it via e-mail to:
PlanningParticipationRequest@bpa.gov

